

LISTING OF CLAIMS

1. (Previously Presented): A discharging method of solid matter for discharging solid matter stored in a container from said container, said method comprising the steps of:

storing said solid matter in an intermediate section of said container;

supplying a discharging liquid into a lower section of said container so as to generate a spiral flow of said liquid;

providing said spiral flow of said liquid from said lower section to said intermediate section by increasing a liquid volume;

gradually generating a spiral flow of said solid matter in said intermediate section by said spiral flow of said liquid; and

discharging said liquid and most of said solid matter present in the form of said spiral flow from a discharge port formed in a bottom of said container such that said solid matter is discharged substantially completely from said container.

2. (Original): A discharging method of solid matter in accordance with claim 1, in which said spiral flow of said liquid and said solid matter is generated by introducing said discharging liquid tangentially into said container in the vicinity of said bottom of said container.

3. (Withdrawn): A discharging mechanism of solid matter for discharging solid matter stored in a container from said container, said mechanism characterized in comprising:

a means for supplying a discharging liquid into said container to generate a spiral flow of said liquid and said solid matter therein; and

a discharging means disposed in a bottom of said container for discharging said liquid and said solid matter present in the form of said spiral flow out of said container.

4. (Withdrawn): A discharging mechanism in accordance with claim 3, in which said means for generating said spiral flow of said liquid and said solid matter is disposed in a lower portion of a side wall of said container.

5. (Withdrawn): A discharging mechanism in accordance with claim 3, in which said means for generating said spiral flow of said liquid and said solid matter comprises a liquid supply section capable of supplying said discharging liquid tangentially into said container.

6. (Withdrawn): A discharging mechanism in accordance with claim 4, in which said means for generating said spiral flow of said liquid and said solid matter comprises a liquid supply section capable of supplying said discharging liquid tangentially into said container.

Claims 7 - 10 (Canceled):

11. (Withdrawn): A discharging mechanism in accordance with claim 3, in which said discharging means is provided as a discharging valve comprising a discharging port disposed in a center of said bottom of said container and a valve body for opening and closing said discharging port.

12. (Withdrawn): A discharging mechanism in accordance with claim 4, in which said discharging means is provided as a discharging valve comprising a discharging port disposed in a center of said bottom of said container and a valve body for opening and closing said discharging port.

13. (Withdrawn): A discharging mechanism in accordance with claim 5, in which said discharging means is provided as a discharging valve comprising a discharging port disposed in a center of said bottom of said container and a valve body for opening and closing said discharging port.

14. (Withdrawn): A discharging mechanism in accordance with claim 6, in which said discharging means is provided as a discharging valve comprising a discharging port disposed in a center of said bottom of said container and a valve body for opening and closing said discharging port.

15. (Withdrawn): Storage equipment for solid matter, characterized in comprising:
a container for storing solid matter;
an inlet section arranged in said container for introducing said solid matter into said container;
at least one liquid supply section arranged in said container for supplying a liquid into said container to thereby generate a spiral flow of said solid matter and said liquid; and

a discharging valve disposed in a bottom of said container for discharging said solid matter stored in said container along with said liquid,

wherein said solid matter stored in said container is concentrated in a central region of said container by means of said spiral flow.

16. (Withdrawn): Storage equipment for solid matter in accordance with claim 11, said equipment characterized in that said liquid supply section is arranged in a lower portion of a side wall of said container.

17. (Withdrawn): Storage equipment for solid matter in accordance with claim 11, said equipment characterized in that said liquid supply section is capable of supplying a discharging liquid tangentially into said container.

18. (Withdrawn): Storage equipment for solid matter in accordance with claim 12, said equipment characterized in that said liquid supply section is capable of supplying a discharging liquid tangentially into said container.

19. (Withdrawn): Storage equipment for solid matter in accordance with claim 11, said equipment characterized in that

said discharging valve comprises a discharging port disposed in the center of said bottom of said container and a valve body for opening and closing said discharging port, wherein

said solid matter concentrated in the central region of said container by means of said spiral flow is discharged from said discharge port.

20. (Withdrawn): Storage equipment for solid matter in accordance with claim 12, said equipment characterized in that

said discharging valve comprises a discharging port disposed in the center of said bottom of said container and a valve body for opening and closing said discharging port, wherein said solid matter concentrated in the central region of said container by means of said spiral flow is discharged from said discharge port.

21. (Withdrawn): Storage equipment for solid matter in accordance with claim 13, said equipment characterized in that

said discharging valve comprises a discharging port disposed in the center of said bottom of said container and a valve body for opening and closing said discharging port, wherein said solid matter concentrated in the central region of said container by means of said spiral flow is discharged from said discharge port.

22. (Withdrawn): Storage equipment for solid matter in accordance with claim 14, said equipment characterized in that

said discharging valve comprises a discharging port disposed in the center of said bottom of said container and a valve body for opening and closing said discharging port, wherein

said solid matter concentrated in the central region of said container by means of said spiral flow is discharged from said discharge port.